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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,724	04/02/2004	David Mottier	250365US2	9466

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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

LAM, KENNETH T

ART UNIT	PAPER NUMBER
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2609

NOTIFICATION DATE	DELIVERY MODE
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08/10/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/815,724

Applicant(s)

MOTTIER ET AL.

Examiner

Kenneth Lam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed July 17, 2007 overcomes the following rejections:
Rejection under 35 U.S.C. 101, and
Rejection under 35 U.S.C. 112, second paragraph.
Examiner acknowledge the cancellation of Claims 2, 13-14.
2. In response to applicant's amendment that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., In Claim 1, "determined so as to account for", and "each predetermined equalization value is calculated using an equation that includes a parameter representative of a noise level in said communication channel, and an additional noise parameter representative of said Doppler effect". In additional, Claim 7 amended "determined so as to account for") are not recited in the original rejected claim(s). In the original Claims 1 and 7, "also representative of" means the predetermined equalization value only represents Doppler effect. However, the amended claims give a broader scope. In addition, the newly added "equation" in Claim 1 changes its scope from originally filed. Therefore, upon further consideration, a new ground(s) of rejection is made in view of Dong Genn Jeong, Myoung Jin Kim, "Effects of channel estimation error in MC-CDMA/TDD systems", This paper appears in: Vehicular Technology Conference Proceedings, 2000. VTC 2000-Spring Tokyo. 2000 IEEE 51st, Publication Date: 2000, Volume: 3, On page(s): 1773-1777 vol.3 (Jeong herein after).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent; or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for the purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English.

4. Claims 1, 3, 5-9, 11-12 rejected under 35 U.S.C. 102(b) as being anticipated by Jeong.

Re Claim 1, Jeong discloses a method for transmitting data in a communication system between base stations and mobiles. It discloses a multicarrier CDMA communication system. Transceiver is an inherent feature in the mobiles and base stations for wireless communication. The method comprising:

spreading said data over a plurality of components (II. System Model, page 1773 right hand column, Walsh-Hadamard code, Fig 1.); and

an equalization step of multiplying each of the components resulting from the spreading step by a corresponding predetermined equalization value representative of communication conditions within the communication channel (Abstract, Fig 1),

wherein at least one predetermined equalization value is determined so as to account for a Doppler effect resulting from a movement of the mobile transceiver ("pre-equalization technique when the channel is time varying due to mobile's motion", Abstract), which adversely affects the communication conditions within the communication channel, wherein each predetermined equalization value is calculated using an equation that includes a parameter representative of a noise level in said communication channel and an additional noise parameter representative of said Doppler effect (II. System Model, page 1773 right hand column, equation (1) discloses a transmitted signal spreading the input data symbol, multiplied by chip, and modulated with pre-equalization technique, Fig 1).

Re Claim 3, Jeong discloses the method as claimed in Claim 1, wherein the communication conditions within the communication channel are modeled by means of study of the effects of said conditions on at least one incoming signal previously received by the mobile transceiver through said communication channel ("based on the channel estimation during the previous reception time slot", abstract); and

the additional noise parameter representative of said Doppler effect includes a variance that increases with an amount of time elapsed since said incoming signal has been received by the mobile transceiver ("the mobile's speed and the time slot duration can be dominant parameters that affect on the error rate", Page 1776, right column).

Re Claim 5, Jeong discloses the method as claimed in Claim 1, wherein the equalization step is performed by the mobile transceiver on components of a signal to be transmitted by said mobile transceiver (Jeong teaches one method of channel

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equalization, "the receiver of a mobile is equipped with a channel equalizer",

Introduction, page 1773 left column).

Re Claim 6, Jeong discloses the method claimed in Claim 1, wherein the equalization step is performed by the mobile transceiver on components of a signal received by said mobile transceiver (Jeong teaches one method of channel equalization, "the receiver of a mobile is equipped with a channel equalizer", Introduction, page 1773 left column).

Re Claims 7-9, 11-12, Jeong discloses both system and method for transmitting data in a communication system between base stations and mobiles (Figure 1-2). The recited "telecommunication system" corresponding to the method as recited in Claims 1, 3, 5-6. The method of Claims 1, 3, 5-6 would inherently necessitate a system of Claims 7-9, 11-12 to carry out said method. Thus, the corresponding "system" as claimed is hereby rejected with respect to Claims 7-9, 11-12.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in **Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966)**, that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows: (See ***MPEP Ch. 2141***)

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- a. Determining the scope and contents of the prior art;
- b. Ascertaining the differences between the prior art and the claims in issue;
- c. Resolving the level of ordinary skill in the pertinent art; and
- d. Evaluating evidence of secondary considerations for indicating obviousness or nonobviousness.

6. Claims 4, 10 rejected under 35 U.S.C. 103(a) as being unpatentable over "Jeong" in view of "Smee et al (Smee herein after), US 6,983,125 B2).

Re Claim 4, Jeong discloses the method as claimed in Claim 1, wherein the communication conditions within the communication channel are modeled by means of a study of the effects of said conditions on at least one incoming signal previously received by the mobile transceiver through said communication channel ("based on the channel estimation during the previous reception time slot", abstract).

Jeong does not explicitly disclose the additional noise parameter representative of said Doppler effect includes a constant variance whose value has been averaged over a time interval between two successive incoming signals. However, Smee discloses MMSE optimization for space-time equalization, line 40 column 6. Therefore, it would be obvious to one skilled in the art at the time of invention was made to incorporate various equalization method taught by Smee and Jeong to further compensate channel conditions.

Re Claims 10, Jeong and Smee disclose both system and method for transmitting data in a communication system between base stations and mobiles (Figure 1-2). The recited "telecommunication system" corresponding to the method as recited in Claim 4. The method of Claim 4 would inherently necessitate a system of

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Claims 10 to carry out said method. Thus, the corresponding "system" as claimed is hereby rejected with respected to Claims 4.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

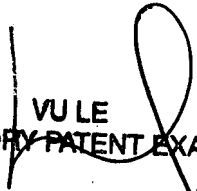
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth Lam whose telephone number is (571) 270-1862. The examiner can normally be reached on Mon - Thu 7:30 am - 5:00 pm EST
ALT Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vu Le can be reached on (571) 272-7332. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KENNETH LAM/


VU LE
SUPERVISORY PATENT EXAMINER